



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,413	09/28/2006	Joachim J. Kahlert	PHUS040178US3	6122

38107 7590 12/04/2008
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
595 MINER ROAD
CLEVELAND, OH 44143

EXAMINER

NGO, CHUONG A

ART UNIT	PAPER NUMBER
----------	--------------

4133

MAIL DATE	DELIVERY MODE
-----------	---------------

12/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,413	Applicant(s) KAHLERT ET AL.	
	Examiner CHUONG A. NGO	Art Unit 4133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/28/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Applicants' communication filed on 9/28/2006. In virtue of this communication, claims 1-24 are currently presented in the instant application.

Drawings

2. The drawings submitted on 9/28/2006. These drawings are reviewed and accepted by the examiner.

Priority

3. Receipt is acknowledged of paper submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information Disclosure Statement (IDS) Form PTO-1449, filed on 9/28/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosed therein was considered by the examiner.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 5, 7-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Public 20040039817A1 (hereinafter

Art Unit: 4133

Lee) in view of US Patent Application Public 20030118015A1 (hereinafter Gunnarsson).

Regarding claim 1, the limitation of “A communications system comprising: a plurality of mobile wireless units located within a defined space of a wireless local area network” is met by Lee teaches in (paragraph [0027] Regardless of the protocol, before a wireless station can begin communication or sending data through an AP within a wireless network, it must associate itself with an AP) of the instant application;

the limitation of “a plurality of access points disposed at known locations in the defined space, each access point operating at a dedicated frequency” is met by Lee teaches in (paragraph [0023] The present invention provides an algorithm for access point (AP) selection in wireless local area networks (LANs) that utilizes both the received signal strength indication (RSSI) value and the channel or network loading information) of the instant application;

the limitation of “a means for tracking movement of at least one mobile device within the defined space including: a means for scanning identified scanning frequencies of nearby access points to measure actual signal strengths between the at least one mobile device and each of the nearby access points” is met by Lee teaches in (paragraph [0035] If active scanning, the station, in step 122, performs an active scan in the appropriate frequencies and obtains or measures the necessary information, i.e., received signal strength indication (RSSI) value and

Art Unit: 4133

network or channel loading, for subsequent, access point selection, also see paragraph 6) of the instant application;

Although Lee does not explicitly teach “a means for calculating at least a location of the at least one mobile device by comparing the actual signal strengths with a map of relative signal strengths at predefined locations in the defined space, and a means for assigning the nearby access points with strongest signals to the at least one mobile device based on its location and the map of relative strengths in the defined space”. However, attention is directed to Gunnarsson, which teaches (paragraph [0018] The wireless communication network 10 tracks the current location of a mobile terminal 60 associated with the user and sends a notification to the subscriber via the mobile terminal 60 when there is a WLAN in the vicinity of the user's current location, also see paragraph 21, 22, 28) of the instant application.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lee invention by employing the teaching as taught by Gunnarsson to include a method of alerting a mobile terminal connected to a wireless communication network of the availability of a wireless local area network. Doing so would merely involve using known technique (notifying a mobile terminal of the availability of a wireless local area network through a communications network) to improve similar device (Wireless consumer electronics

Art Unit: 4133

devices) in the same way (minimization of power dissipation and the maximization of battery life).

Regarding claim 2, the limitation of “the scanning means only scans the frequencies of the assigned nearby access points” is met by Lee teaches in (paragraph [0010] in one embodiment of the present invention, the wireless station first acquires signal strength (e.g., RSSI) and channel loading information from all access points at the appropriate frequencies) of the instant application;

Regarding claim 3, the claim limitation is taught by Gunnarsson in (paragraph [0021] The mobile terminal 60 may determine its position from GPS signals independently, or alternatively, it may receive assistance data, such as satellite ephemeris data or approximate location, from the communication network 10. A wide variety of systems and methods for determining and tracking the precise location of mobile terminals 60 within a wireless communication network 10 have been developed to support location-based services such as advertising and emergency call point-of-origin reporting).

Therefore, the modification of Lee and Gunnarsson, as discussed above would have included the “the tracking means tracks the movement of the at least one mobile device by periodically scanning the frequencies of three assigned access points adjacent the calculated location” of the instant application.

Art Unit: 4133

Regarding claim 5 has limitations similar to those treated in the above rejection(s), and are met by the references as discussed claim 3 above.

Regarding claim 7 has limitations similar to those treated in the above rejection(s), and are met by the references as discussed claim 3 above.

Regarding claim 8, the limitation “a means for measuring a plurality of initial signal strengths at predefined locations within the defined space; a means for mapping the initial signal strengths in relation to predefined locations in the defined space; and a means for identifying locations and scanning frequencies of the access points in the defined space” is met by Lee teaches in (paragraph [0070] the wireless station either first determines the scanning mode in step 718 and performs the appropriate scan (active in step 722 or passive in step 726) or directly performs a passive scan in step 726. The scan, either active or passive, is performed at the appropriate operating frequencies to acquire the necessary information for AP selection) of the instant application.

Regarding claims 9, 23 are drawn to the method used by the corresponding apparatus 1 and are rejected for the same reasons of obviousness used above.

Regarding claim 10 is drawn to the method used by the corresponding apparatus 2 and are rejected for the same reasons of obviousness used above.

Art Unit: 4133

Regarding claims 11, 12, 14, 16, 21, 22 are drawn to the method used by the corresponding apparatus 3 and are rejected for the same reasons of obviousness used above.

Regarding claim 13, 15 is drawn to the method used by the corresponding apparatus 4 and are rejected for the same reasons of obviousness used above.

Regarding claim 17, the limitation “comparing the determined certainty with a requested threshold” is met by Lee teaches in ([0010] the wireless station first acquires signal strength (e.g., RSSI) and channel loading information from all access points at the appropriate frequencies. In general, if APs exist that have channel loading less than the maximum acceptable value and signal strength greater than a first threshold, the AP having the highest signal strength is selected. If no APs meet the above criteria, the first threshold is decreased to a second threshold. If there are APs that meet this more relaxed condition, the AP having the lowest channel utilization is selected, further, teaches in [0055] if at least one AP exists from step 436, the wireless station selects the AP with the highest RSSI value in step 440. Then, the result of step 416 indicates that a suitable AP exists, and the AP selection process ends in step 418. However, if there are no APs satisfying conditions (2) and (4) in step 436, the wireless station selects the AP having the lowest QBSS_Load number and meeting the requirement of condition (4) (reproduced below) in step 424) of the instant application.

Regarding claims 18, 19, 20 have limitations similar to those treated in the above rejection(s), and are met by the references as discussed claim 17 above.

Regarding claim 24 has limitations similar to those treated in the above rejection(s), and are met by the references as discussed claim 1 above.

7. Claims 4, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Public 20040039817A1 (hereinafter Lee) in view of US Patent Application Public 20030118015A1 (hereinafter Gunnarsson) further in view of US Patent Application Public 20020082012A1 (hereinafter Wang).

Although Lee and Gunnarsson do not explicitly teach “the position tracking means includes: a velocity estimating means for determining speed and direction of movement of the at least one mobile device”. However, attention is directed to Wang, which teaches (paragraph [0038] If the differences exceed upper or lower bound values, an indication is generated by the comparator, here on the line 52. The line 52 is coupled to a movement determiner 56. The movement determiner also selectively receives velocity and position indicia associated with the mobile station, communication with which is to be handed off. The velocity and position indicia are here provided to the movement determiner by way of the line 58. The velocity indicia include both a speed component and a direction component. The movement determiner is operable to determine whether movement of the mobile station exceeds a selected movement threshold).

Art Unit: 4133

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lee and Gunnarsson invention by employing the teaching as taught by Wang to provide by which to perform adaptive handoff of communications between a serving communication station and a target communication station. Doing so would merely involve using known technique (facilitate selection of handoff of communications with a mobile station) to improve similar device (cellular and radio communication system) in the same way (handoff procedures in a radio communication system).

Regarding claim 6 has limitations similar to those treated in the above rejection(s), and are met by the references as discussed claim 4 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG A. NGO whose telephone number is 571-270-7264. The examiner can normally be reached on Monday 7:00AM to 5:30PM, Tuesday through Thursday 6:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Abul Azad can be reached on 571-272-7599. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHUONG A NGO/
Examiner, Art Unit 4133

/ABUL AZAD/
Supervisory Patent Examiner, Art
Unit 4133